

AMENDMENTS TO THE SPECIFICATION

The specification has been amended as follows:

Page 1

The following new heading has been added at line 1:

Background of the Invention

The subheading at line 2 has been amended as follows:

Technical fieldField of the invention

Page 2

The subheading at line 1 has been amended as follows:

Prior artDescription of related art

The paragraph at lines 5-11 has been amended as follows:

Many different schemes, e.g. time, e.g., time, frequency or code division multiple access systems (TDMA, FDMA, CDMA respectively), have been developed to increase the available resources for a given transmission system. While these transmission schemes work very well, the efficient allocation of the available resources to different users is a challenge. The goal is to allocate resources very quickly to a user who has information to transmit and to immediately deallocate it from the user, when he has nothing to transmit in order to allocate it to another user who has something to transmit.

The paragraph at lines 12-16 has been amended as follows:

In resource allocation, it is not only important, how much of the available resource, i.e. ~~data~~i.e., rate, is allocated to a user, but also how fast it is allocated to him. Radio resource allocation is particularly difficult, when a user is sending information intermittently. Ideally, the necessary resources should be allocated to the user as soon as he asks for it and then the resources should be taken away, again without delay, when he has nothing more to send.

Page 3

The paragraph at lines 8-10 has been amended as follows:

~~It is therefore an object of the invention to provide~~ The present invention provides a method of allocating radio resources of a radio communication network to a plurality of users, permitting an efficient radio resource allocation.

The paragraph at lines 11-19 has been amended as follows:

~~The object of the invention is achieved by the method defined in claim 1. In~~ According to one aspect of the invention, in a radio communication network where the radio resources of the network are allocated to a plurality of users and where a user is allocated a certain transmission capacity, the radio resources are, according to the invention, allocated to a user depending on an utilization factor which is determined relating to the transmission capacity allocated to a user. In other words, it is determined, how much of the transmission capacity, which is assigned to a particular user, is actually used by this

particular user. If the actually used transmission capacity is too low compared to the assigned capacity, then the algorithm for radio resource allocation can be modified or adjusted in order to achieve a higher utilization factor.

Page 4

The paragraph at lines 11-16 has been amended as follows:

~~In a preferred embodiment~~ In an embodiment of the invention, the utilization factor is determined by detecting time intervals in which the user does not or not completely exploit the transmission capacity which is allocated to him. He either transmits no or not as much data as the assigned transmission capacity would allow. This enables a precise measurement how much of the transmission capacity allocated to the user is actually used by the user to transmit data.

Pages 4-5

The paragraph beginning on page 4, line 25 and ending on page 5, line 2 has been amended as follows:

This method has the advantage, that the equipment to detect the time intervals, ~~i.e.-a-i.e.,~~ a radio receiver, can be placed anywhere between the transmitter and the receiver, where the signal from the transmitter can be received. It furthermore permits to consider properties of the air interface when determining the utilization factor.

Page 6

The paragraph at lines 1-5 has been amended as follows:

This method also can be easily implemented in existing systems for instance as pure software to be integrated in node of a telephone network. However, to employ this method, the data transmission rate (e.g. a (e.g., a given number of bytes per second) as well as the amount of transmitted data (e.g. the (e.g., the number of bytes transmitted) have to be known or at least measurable.

The paragraph at lines 9-17 has been amended as follows:

In some communication systems, a user can be assigned more than one transmission channel simultaneously, ~~i.e. two~~ i.e., two or more timeslots in a TDMA system or two different carrier frequencies in a FDMA system. It would be possible to determine the utilization factor relating to the joint transmission capacity of all or at least two transmission channels. However, in such systems, it could be possible, that the user continuously transmits data in one channel but only intermittently in another channel. Hence, there are time intervals with a higher throughput than other time intervals but there are no time intervals with no data throughput at all. Thus the determination of the utilization factor by detection of time intervals without any data transmission could produce incorrect results.

The paragraph at lines 21-23 has been amended as follows:

~~It is a further object of the invention to provide~~ The present invention also provides a radio network and a device for an efficient allocation of radio resources to a plurality of users. This object is achieved by the radio network according to claim 8 and the device according to claim 12 respectively.

Page 7

The paragraph at lines 3-5 has been amended as follows:

~~Regarding the object of the invention to provide~~ The present invention provides a device for an efficient allocation of radio resources of a radio communication network, it is achieved by including the means for the determination of the utilization factor in this device.

The subheading at line 9 has been amended as follows:

Short Brief description of the drawings

The paragraph at lines 16-17 has been amended as follows:

Fig. 3 a schematical view of a part of a radio communication network according to the invention andinvention; and

The paragraph at lines 18-19 has been amended as follows:

Fig. 4 a more detailed view of some elements of the radio network as shown in fig. 3.Fig. 3.

Application No.: 10/506,783
Reply dated November 15, 2005
to Office Action of June 15, 2005
Page 7 of 19

Docket No.: 2360-0419PUS1

Page 8

The subheading at line 1 has been amended as follows:

Ways of carrying out the inventionDetailed description of the invention